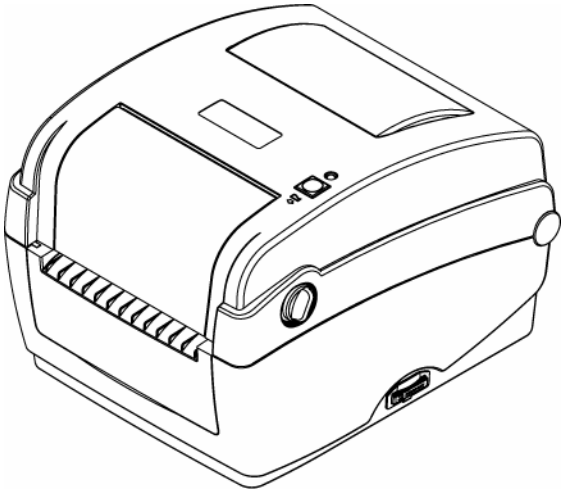
Cub CB-424e

THERMAL TRANSFER / DIRECT THERMAL BAR CODE PRINTER

USER'S MANUAL



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1. Introduction
1.1 Product Introduction

Thank you for purchasing the Cub CB-424e bar code printer. Although the printer takes only a a small amount of space, it delivers reliable, superior performance.

This printer provides both thermal transfer and direct thermal printing at user selectable speeds of: 2.0, 3.0, 4.0 or 5.0 ips. It accepts roll feed and fan-fold labels for both thermal transfer and direct thermal printing. The unit will print all common 1D & 2D bar code formats. Fonts and bar codes can be printed in 4 directions, 8 different alphanumeric bitmap fonts fonts are preloaded into the printers memory. The unit also supports type fonts.

1.2 Compliances

CE Class B:
- EN55022: 1998+A1: 2000+A2: 2003
- EN55024: 1998+A1: 2001+A2: 2003 IEC 61000-4 Series
- EN61000-3-2: 2006 & EN61000-3-3: 1995+A1: 2001

FCC Part 15, Class B
UL, CUL
C-Tick:
- CFR 47, Part 15/CISPR 22 3rd Edition: 1997, Class B
- ANSI C63.4: 2003
- Canadian ICES-003

TÜV-GS: EN60950: 2000

Wichtige Sicherheits-Hinweise
1.Bitte lesen Sie Diese Hinweis sorgfältig durch
2.Heben Sie diese Anleitung fűr den späteren Gebrauch auf.
3.Vor jedem Reinigen ist das Gerät vom Stromentz zu trennen. Verwenden Sie Keine Flűssig-oder Aerosolreiniger. Am besten eignet sich ein angefeuchtetes Tuch zur Reinigung.
4.Die Netzanschlußsteckdose soll nahe dem Gerät angebraucht und leicht zugänglich sein.
5.Das Gerät ist vor Feuchtigkeit zu schűtzen.
6.Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Beschädigungen hervorrufen.
7.Beáchten Sie beim Anschluß an das stromnetz die Anschlußwerte.
8. Dieses das Gerät kann bis zu einer Außentemperatur von maximal 40℃ betieben werden.

(CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer instructions.)

"ORSICHT"
Explosionsgetahr bei unsachgemen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenem nlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

WARNING

HAZARDOUS MOVING PARTS KEEP FINGERS AND OTHER BODY PARTS AWAY

CAUTION
RISK OF EXPLOSION IF BATTERY IS REPLACED
BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING
TO THE INSTRUCTIONS

WARNUNG!
GEFÄHRLICHE BEWEGLICHE TEILE – FINGER UND ANDERE KÖRPERTEILE FERNHALTEN!

VORSICHT!
EXPLOSIONSGEFAHR BEI ERSATZ DER
BATTERIE DURCH UNZULÄSSIGEN TYP.
VERBRAUCHTE BATTERIEN IMMER
VORSCHRIFTSGEMÄSS ENTSORGEN!

Note：

*** Continuous printing may cause the printers motor to overheat. The printer will stop printing automatically for about 10~15 minutes until motor has cooled down. Please do not turn power off when printer pauses or the data transfered to the printer buffer will be lost.**

*** The maximum printing ratio per dot line is 15% for this printer. To print the full web black line, the maximum black line height is limited to 40 dots, which is 5mm for 203 DPI resolution printer and 3.3mm for 300 DPI resolution printer.**

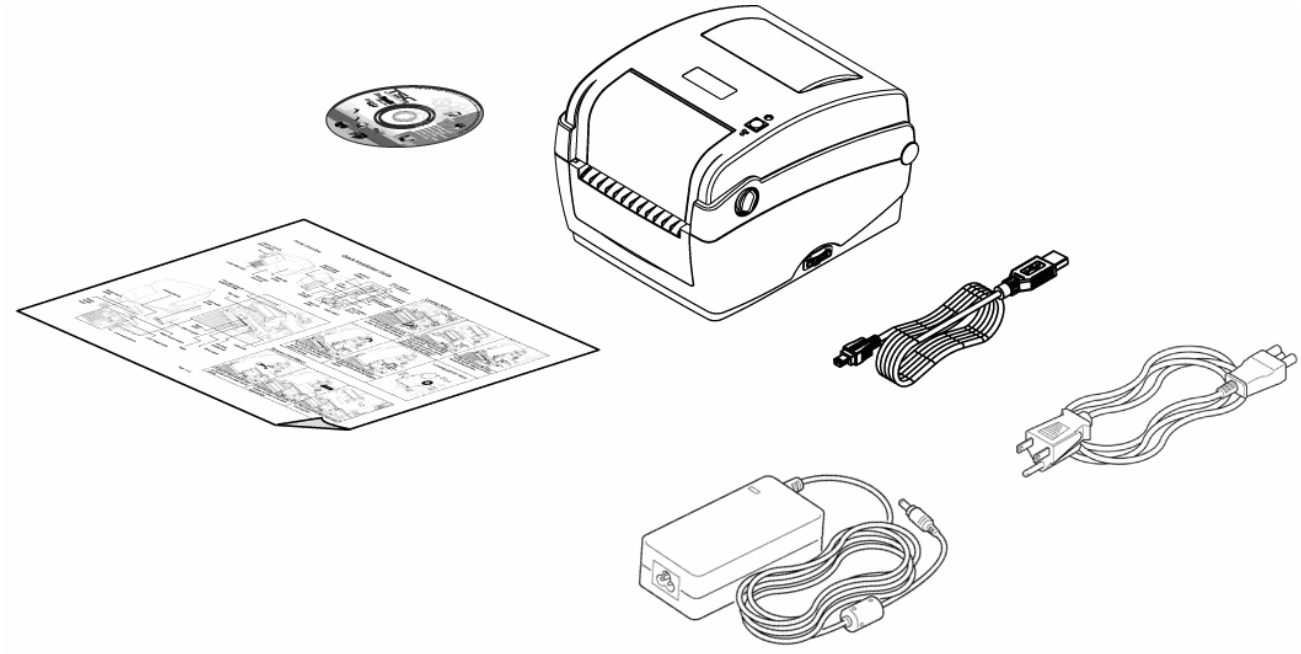
2. Operations Overview

2.1 Unpacking and Inspection

This printer has been specially packaged to withstand damage during shipping. Please carefully inspect the packaging and printer upon receiving the unit. Please retain the packaging materials in case you need to reship the printer.

The following items are included with the printer.

- One Cub CB-424e printer
- One Software & Documentation CD
- One quick installation guide
- One power cord
- One auto switching power supply
- One USB interface cable



If any parts are missing, please contact the Customer Service Department of your purchased reseller or distributor.

2.2 Printer Overview

2.2.1 Front View

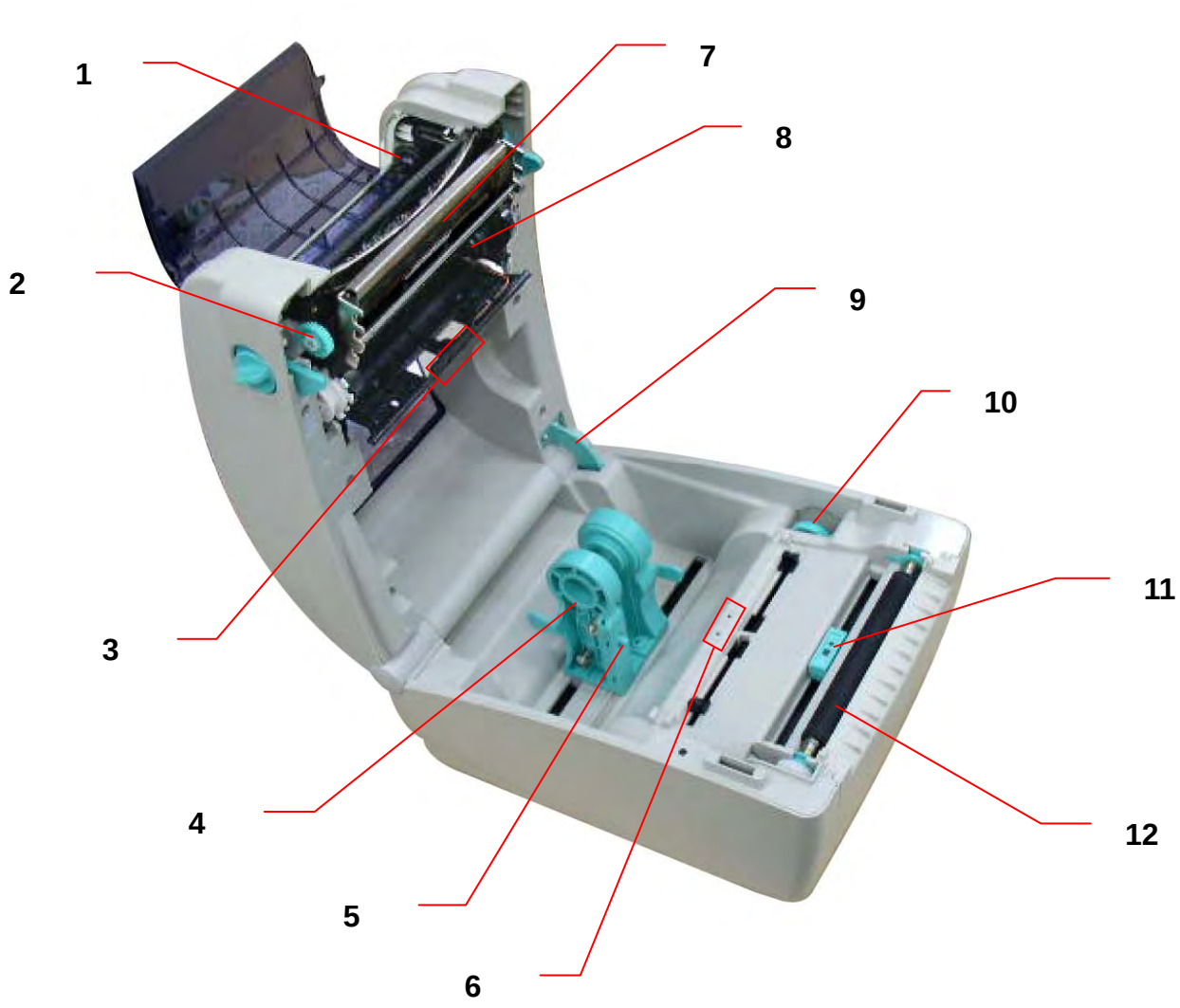
1. Ribbon access cover
2. Top cover open lever
3. Media view window
4. LED indicator
5. Feed button
6. SD card socket

* Recommended SD card specification.

SD card spec	SD card capacity	Approved SD card manufacturer
V1.0, V1.1	128 MB	SanDisk, Transcend
V1.0, V1.1	256 MB	SanDisk, Transcend, Panasonic
V1.0, V1.1	512 MB	SanDisk, Transcend, Panasonic
V1.0, V1.1	1 GB	SanDisk, Transcend, Panasonic
V2.0 SDHC CLASS 4	4 GB	
V2.0 SDHC CLASS 6	4 GB	SanDisk, Transcend, Panasonic
V1.0, V1.1	microSD 128 MB	Transcend, Panasonic
V1.0, V1.1	microSD 256 MB	Transcend, Panasonic

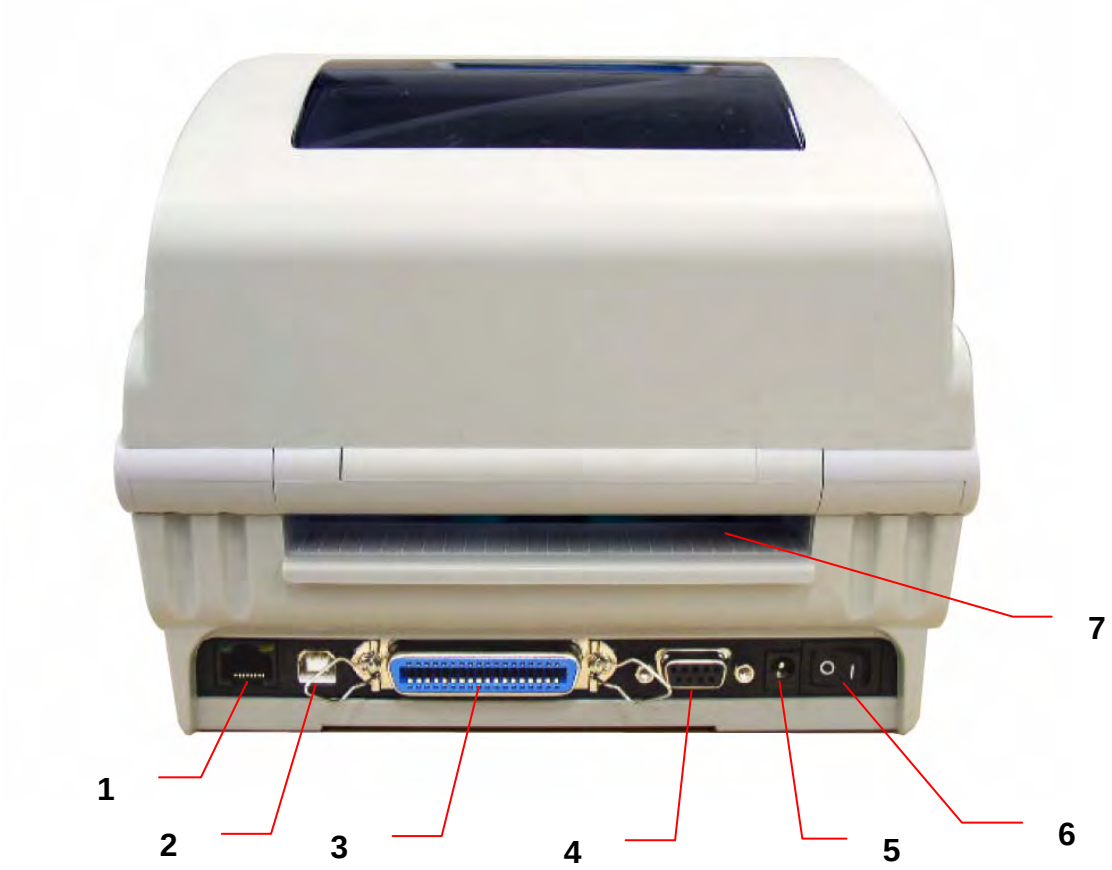
V1.0, V1.1	microSD 512 MB	Panasonic
V1.0, V1.1	microSD 1 GB	Transcend, Panasonic
V2.0 SDHC CLASS 4	microSD 4 GB	Panasonic
V2.0 SDHC CLASS 6	microSD 4 GB	Transcend
V1.0, V1.1	miniSD 128 MB	Transcend, Panasonic
V1.0, V1.1	miniSD 256 MB	Transcend, Panasonic
V1.0, V1.1	miniSD 512 MB	Transcend, Panasonic
V1.0, V1.1	miniSD 1 GB	Transcend, Panasonic
V2.0 SDHC CLASS 4	miniSD 4 GB	Transcend
V2.0 SDHC CLASS 6	miniSD 4 GB	
- The DOS FAT file system is supported for the SD card. - Folders/files stored in the SD card should be in the 8.3 filename format - The miniSD/microSD card to SD card slot adapter is required.		

2.2.2 Interior view



1. Ribbon rewind hub
2. Ribbon rewind gear
3. Gap sensor (receiver)
4. Media holder
5. Media holder lock switch
6. Gap sensor (transmitter)
7. Printhead
8. Ribbon supply hub
9. Top cover support
10. Media guide adjustment knob
11. Black mark sensor
12. Platen roller

2.2.3 Rear View

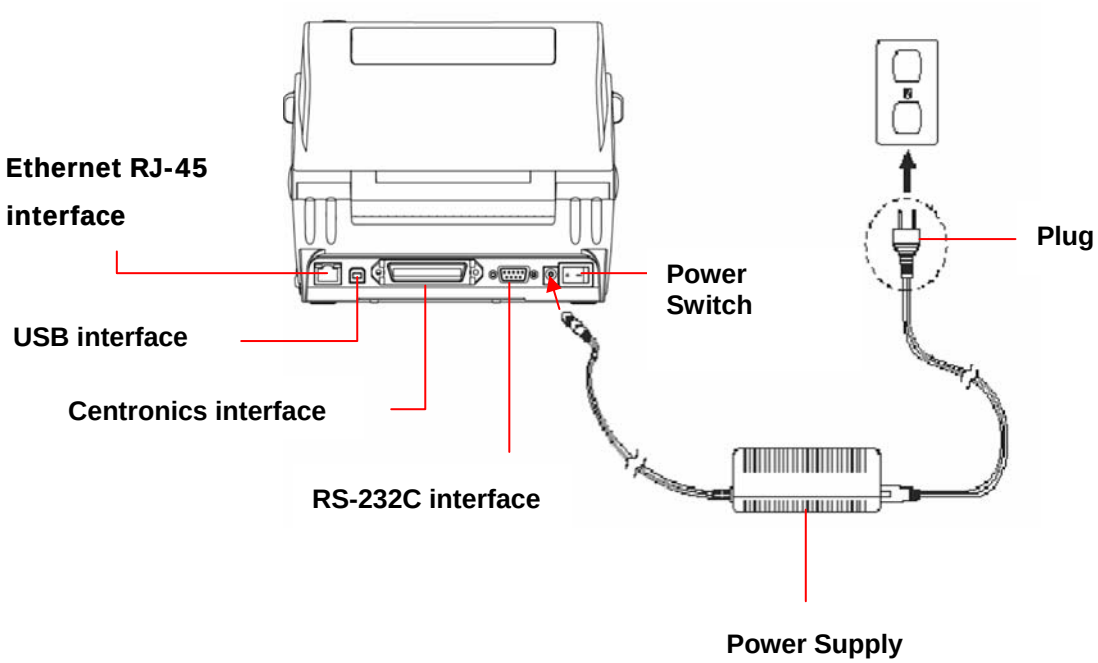


1. Ethernet interface
2. USB interface
3. Centronics interface
4. RS-232C interface
5. Power jack socket
6. Power switch
7. Fan-fold paper entrance chute

3. Setup

3.1 Setting Up the Printer

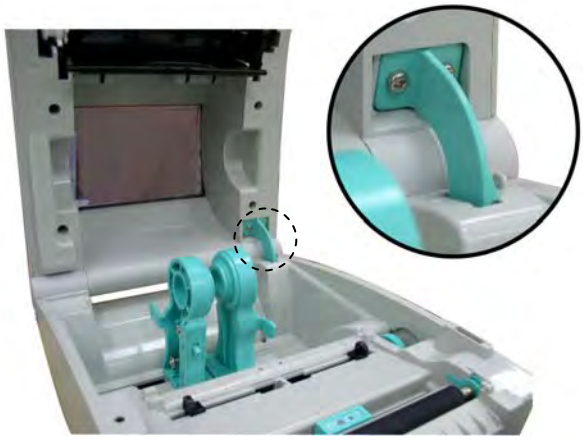
1. Place the printer on a flat, secure surface.
2. Make sure the power switch is off.
3. Connect the printer to the computer with the provided USB cable.
4. Plug the power cord into the AC power cord socket at the rear of the printer, and then plug the power cord into a properly grounded power outlet.



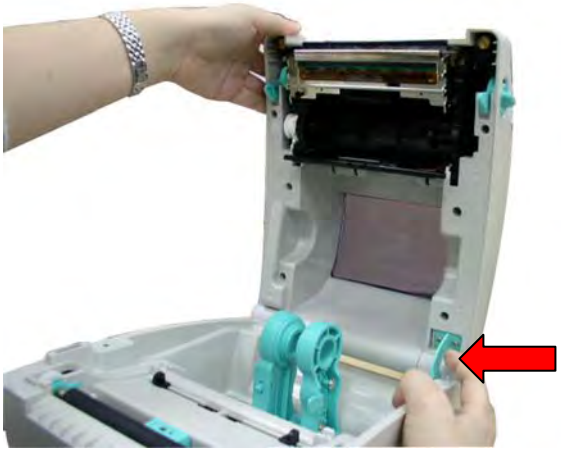
3.2 Opening & Closing the Top Cover

1. To open the printer top cover pull the green tabs located on each side toward the front of the printer, then lift the top cover to the maximum open angle.

2. The top cover support at the rear of the printer will engage with the lower cover to hold the printer top cover open.



3. Hold the top cover and press the top cover support to disengage the top cover support with the lower cover. Gently close the top cover.



3.3 Loading the Ribbon

1. Open the printer's top cover by pulling the green top cover open levers located on each side of the printer and lift the top cover to the maximum open angle.
2. Open the ribbon access cover.

Note:

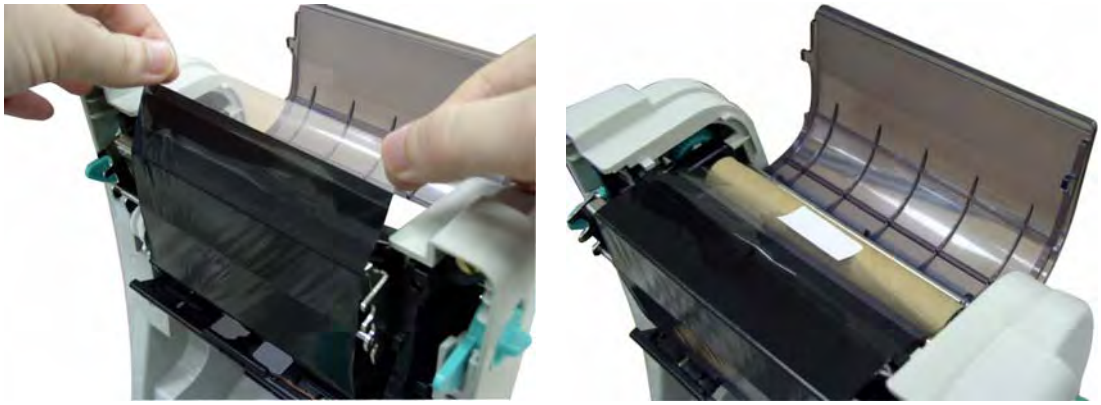
1. In normal printing mode, ribbon access cover may open while the top cover opens. The Ribbon access cover can be closed or open while the top cover is closed.

2. In peel and cutter mode, please open the top cover then the ribbon access cover can be opened or closed.

3. Insert the ribbon right side onto the supply hub. Align the notches on the left side with the matching nothces on the ribbons core and mount onto the spokes.

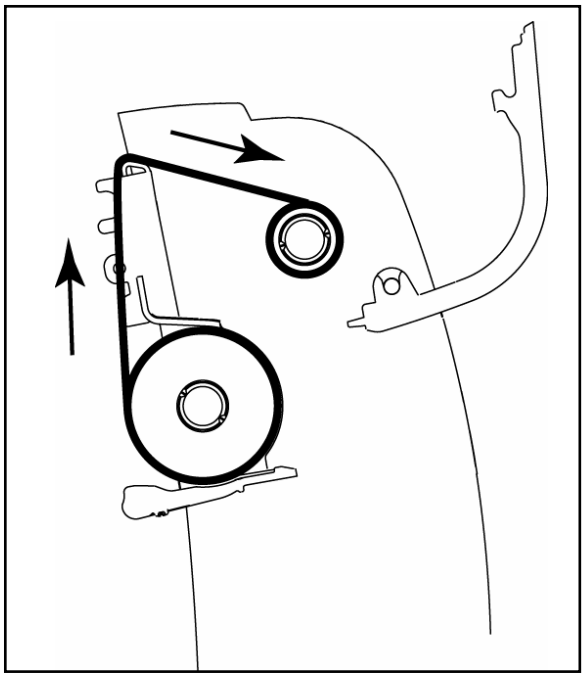
4. Insert the paper core right side onto the rewind hub. Align the notches on the left side and mount onto the spokes.

5. Stick the ribbon onto the ribbon rewind paper core.



6. Turn the ribbon rewind gear until the ribbon plastic leader is thoroughly wound and the black section of the ribbon covers the print head. Close the ribbon access cover and the top cover.

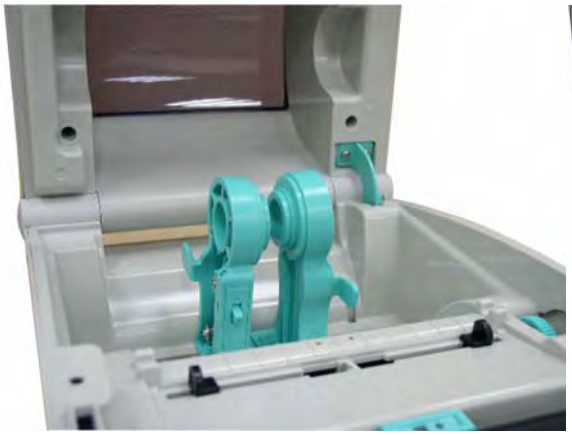
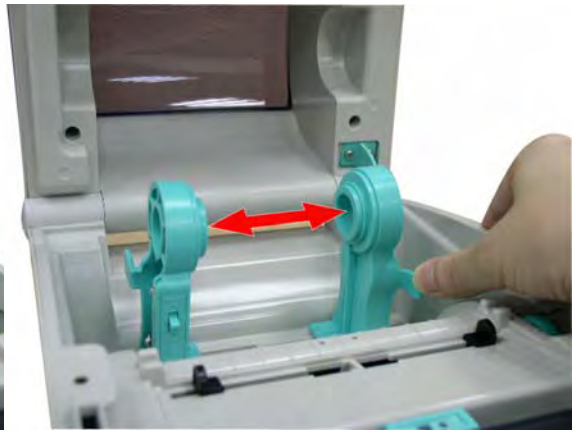
- **Loading Path for Ribbon**



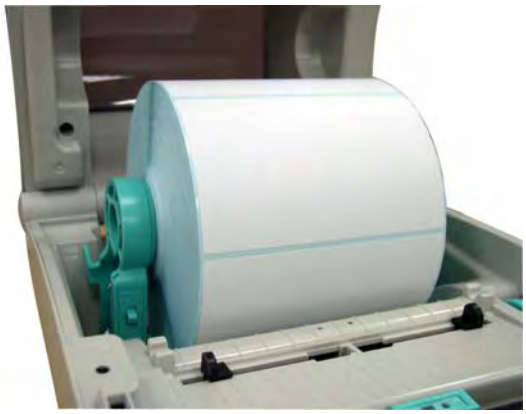
3.4 Loading the Media

3.4.1 Loading the media

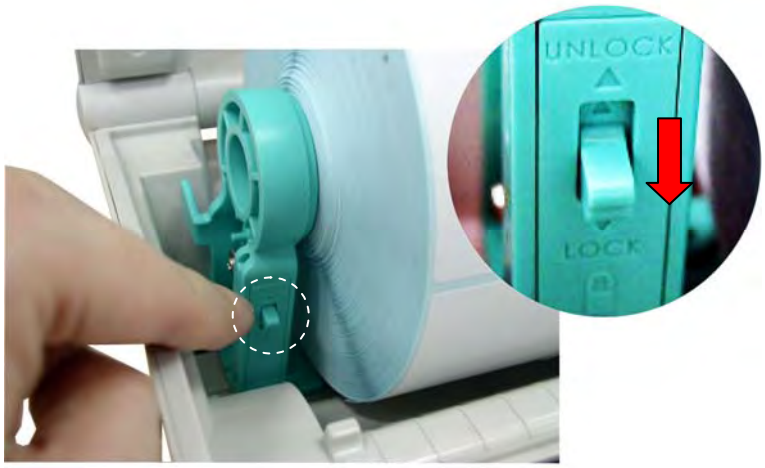
1. Open the printer top cover by pulling the green tabs located on each side towards the front of the printer, then lift the top cover to the maximum open angle.
2. Separate and hold open the media holders.

3. Place the roll between the holders and close them onto the core.

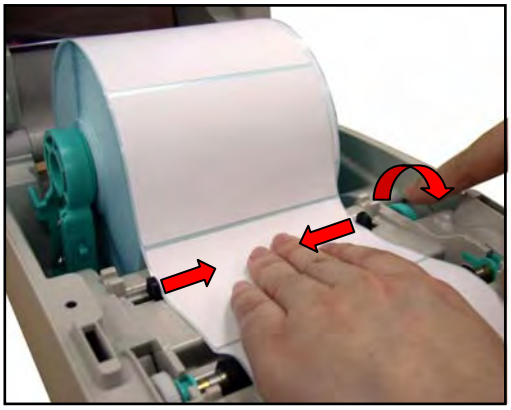


4. Press down the media holder lock switch to hold the label roll firmly.



5. Place the paper, printing side face up, through the media sensor and place the label leading edge onto the platen roller. Move the media guides to fit the label width by turning the guide adjuster knob. Disengage the top cover support and close the top

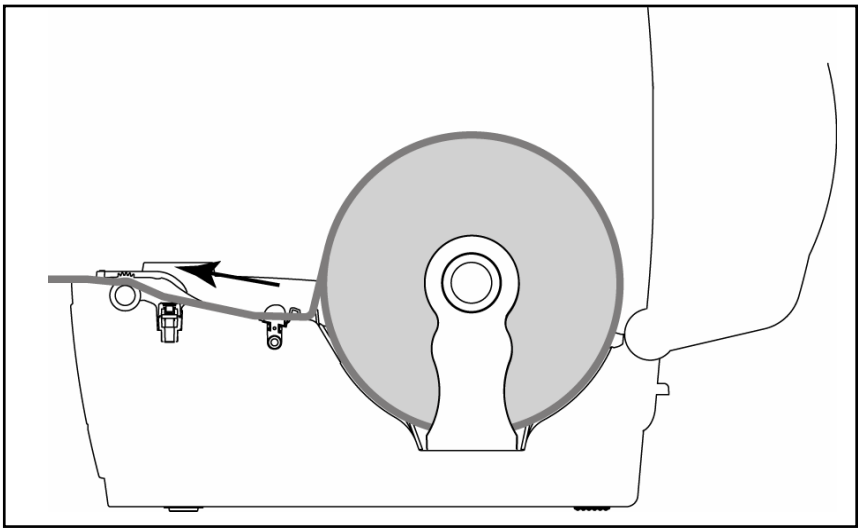
cover gently.



6. Use “Diagnostic Tool” to set the media sensor type and calibrate the selected sensor. (Start the “Diagnostic tool” → Select the “Printer Configuration” tab → Click the “Calibrate Sensor” button) Please refer to the diagnostic utility quick start guide for more information.

Note: Please calibrate the gap/black mark sensor when changing media.

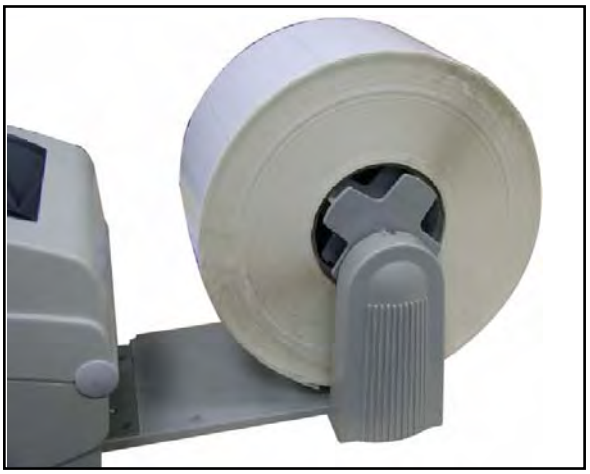
- **Loading path for roll labels**



3.4.2 External Label Roll Mount Installation (Option)

1. Attach an external paper roll mount on the bottom of the printer.

2. Insert a 3” label spindle into a paper roll. And install it on the external paper roll mount.



3. Open the printer’s top cover and separate the media holders to fit the media width.
4. Press down the media holder lock switch to fix the media holder.
5. Feeds the media through the rear external label entrance chute. And place the paper, printing side face up, through the media sensor and place the label leading edge onto the platen roller.

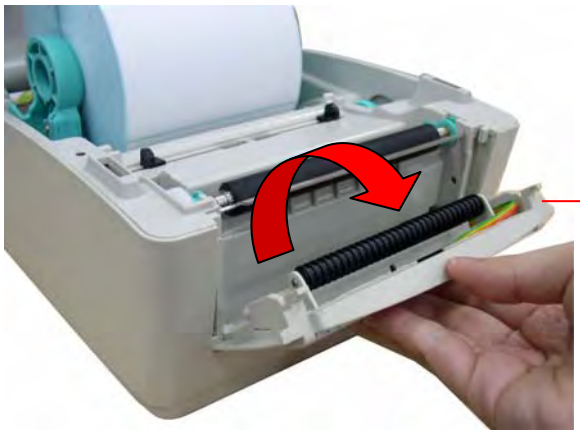
6. Move the media guides to fit the label width by turning the guide adjuster knob.
7. Disengage the top cover support and close the top cover gently.

8. Use “Diagnostic Tool” to set the media sensor type and calibrate the selected sensor. (Start the “Diagnostic tool” → Select the “Printer Configuration” tab → Click the “Calibrate Sensor” button) Please refer to the diagnostic utility quick start guide for more information.

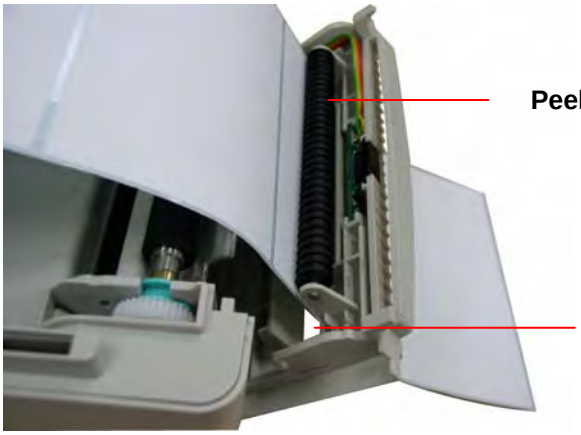
Note: Please calibrate the gap/black mark sensor when changing media.

3.4.3 Loading Media in Peel-off Mode (Option)

1. Refer to section 3.4.1 to load the media.
2. Feed the paper, printing side facing up, through the paper guide and pass over the platen.
3. Move the media guides to fit the label width by turning the guide adjuster knob.
4. Use “Diagnostic Tool” to set the media sensor type and calibrate the selected sensor. (Start the “Diagnostic tool” → Select the “Printer Configuration” tab → Click the “Calibrate Sensor” button) Please refer to the diagnostic utility quick start guide for more information.
5. Open the peel-off panel by pulling it out.



6. Lead the media through the backing paper opening, beneath the peel-off roller.



7. Push the peel-off panel back to the printer

8. Disengage the top cover support and close the top cover gently.
9. Peeling will automatically start. Press the FEED button to test.

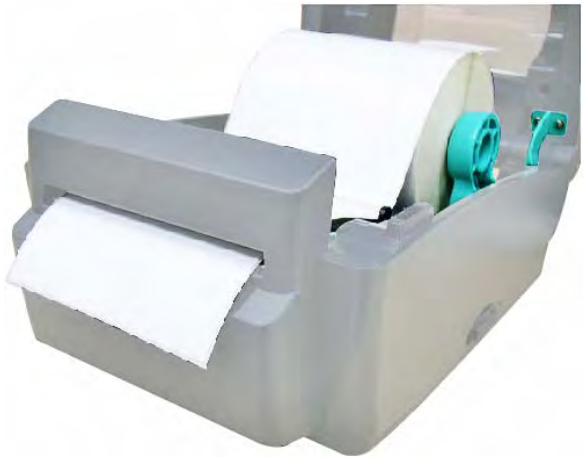
Backing paper (Liner)

Note:

Please calibrate the gap/black mark sensor when changing media.

3.4.4 Loading Media in Cutter Mode (Option)

1. Refer to section 3.4.1 to load the media.
2. Lead the media through the cutter paper opening.



3. Move the media guides to fit the label width by turning the guide adjuster knob.
4. Disengage the top cover support and close the top cover gently.
5. Use “Diagnostic Tool” to set the media sensor type and calibrate the selected sensor. (Start the “Diagnostic tool” → Select the “Printer Configuration” tab → Click the “Calibrate Sensor” button) Please refer to the diagnostic utility quick start guide for more information.

Note:

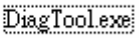
Please calibrate the gap/black mark sensor when changing media.

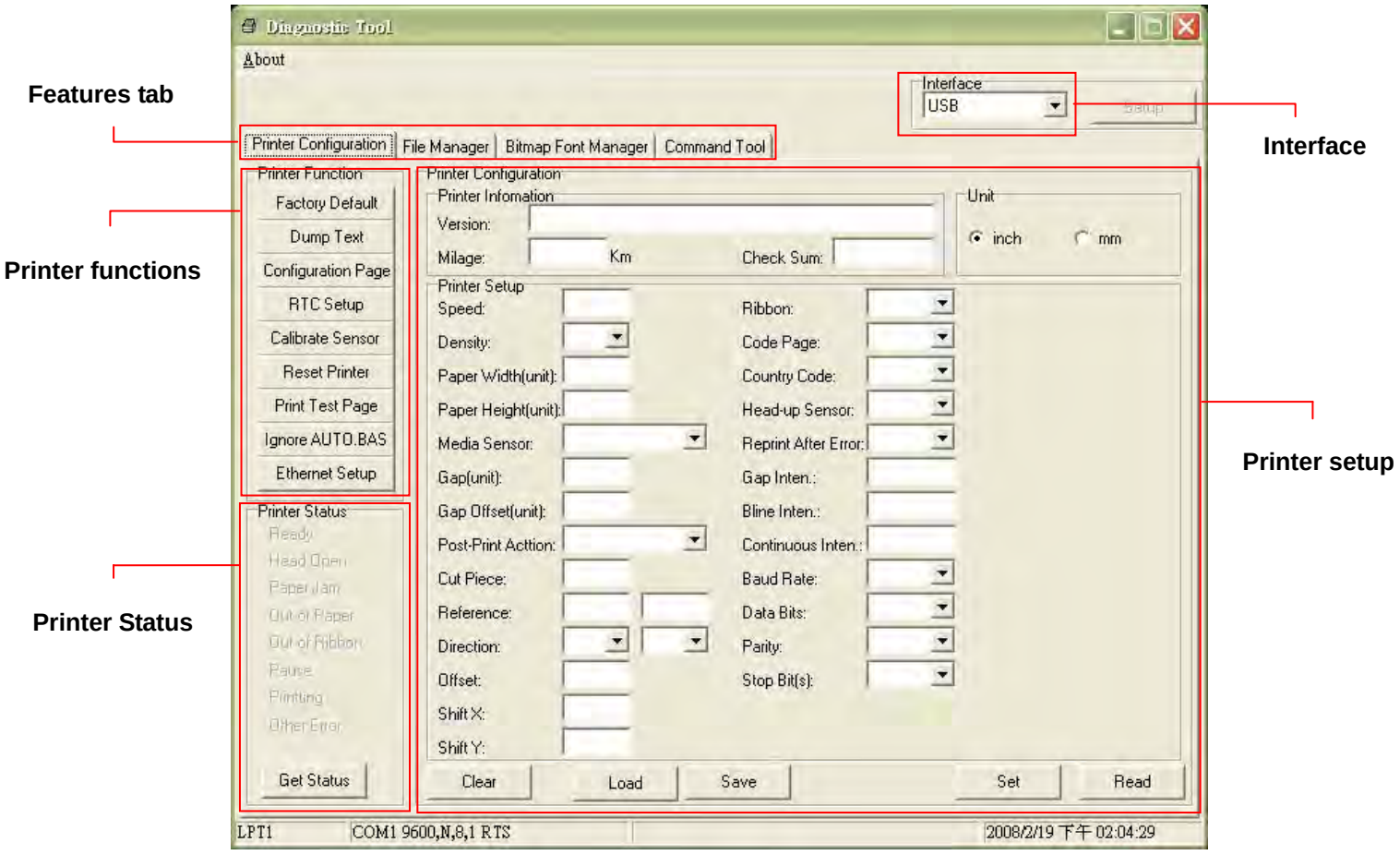
3.5 Diagnostic Tool

The Diagnostic Utility is a toolbox that allows users to explore the printer's settings and status; change printer settings; download graphics, fonts, and firmware; create printer bitmap fonts; and to send additional commands to the printer. Using this convenient tool you can explore the printer status, settings and troubleshoot the printer.

Note: This utility works with printer firmware V6.00 and later.

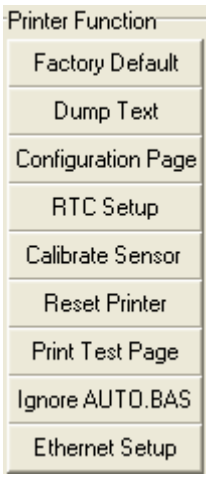
3.5.1 Start the Diagnostic Tool

1. Double click on the Diagnostic tool icon  to start the software.
2. There are four features (Printer Configuration, File Manager, Bitmap Font Manager, Command Tool) included in the Diagnostic utility.



3.5.2 Printer Function (Calibrate sensor, Ethernet setup, RTC setup……)

1. Select the interface used to connect the printer with the PC.
2. Click the “Function” button to setting.
3. The detail functions in the Printer Function Group are listed below.



Function	Description
Factory Default	Initialize the printer and restore the settings to factory default.
Dump Text	To activate the printer dump mode.
Configuration Page	Print printer configuration.
RTC Setup	Synchronize printer Real Time Clock with PC.
Calibrate Sensor	Calibrate the sensor specified in the Printer Setup group media sensor field.
Reset Printer	Reboot the printer.
Print Test Page	Print a test page.
Ignore AUTO.BAS	Ignore the downloaded AUTO.BAS program.
Ethernet Setup	Setup the IP address, subnet mask, gateway for the on board Ethernet.

Note:

For more information about the Diagnostic Tool, please refer to the diagnostic utility quick start guide on the provided Software & Documentation CD, Utilities folder.

3.6 Install SD Memory Card

1. Open the SD memory card cover.

2. Plug the SD card into the main board.

3. Close the memory card cover.

* Recommended SD card specification.

SD card spec	SD card capacity	Approved SD card manufacturer
V1.0, V1.1	128 MB	SanDisk, Transcend
V1.0, V1.1	256 MB	SanDisk, Transcend, Panasonic
V1.0, V1.1	512 MB	SanDisk, Transcend, Panasonic
V1.0, V1.1	1 GB	SanDisk, Transcend, Panasonic
V2.0 SDHC CLASS 4	4 GB	
V2.0 SDHC CLASS 6	4 GB	SanDisk, Transcend, Panasonic
V1.0, V1.1	microSD 128 MB	Transcend, Panasonic

V1.0, V1.1	microSD 256 MB	Transcend, Panasonic
V1.0, V1.1	microSD 512 MB	Panasonic
V1.0, V1.1	microSD 1 GB	Transcend, Panasonic
V2.0 SDHC CLASS 4	microSD 4 GB	Panasonic
V2.0 SDHC CLASS 6	microSD 4 GB	Transcend
V1.0, V1.1	miniSD 128 MB	Transcend, Panasonic
V1.0, V1.1	miniSD 256 MB	Transcend, Panasonic
V1.0, V1.1	miniSD 512 MB	Transcend, Panasonic
V1.0, V1.1	miniSD 1 GB	Transcend, Panasonic
V2.0 SDHC CLASS 4	miniSD 4 GB	Transcend
V2.0 SDHC CLASS 6	miniSD 4 GB	
- The DOS FAT file system is supported for the SD card. - Folders/files stored in the SD card should be in the 8.3 filename format - The miniSD/microSD card to SD card slot adapter is required.		

4. LED and Button Functions

This printer has one button and one three-color LED indicator. By indicating the LED with a different color and pressing the button the printer can feed labels, pause printing, select and calibrate the media sensor, print a self-test and reset the printer to defaults (initialization). Please refer to the button operation below for different functions.

4.1 LED indicator

LED Color	Description
Green/ Solid	This indicates that the power is on and the device is ready for use.
Green/ Flashing	This indicates that the system is downloading data from PC to the printer memory or that the printer is paused.
Amber	This indicates that the system is clearing data from printer.
Red / Solid	This indicates and error such as head open or cutter error.
Red / Flash	This indicates a printing error, such as head open, paper out, paper jam, ribbon out, or memory error etc.

4.2 Regular button function

1. Feed labels

When the printer is ready, press the button to feed one label to the beginning of next label.

2. Pause the printing job

When the printer is printing, press the button to pause a print job. When the printer is paused the LED will blink green. Press the button again to continue the print job.

4.3 Power on utilities

There are six power-on utilities to set up and test the printer. These utilities are activated by pressing the FEED button while turning on the printer power simultaneously and releasing the button at different LED colors.

Please follow the steps below to perform the different power-on utilities.

1. Turn off the printer power switch.
2. Press and hold the FEED button while powering on the printer.

3. Release the button when the LED indicates the color for the needed function.

Power on utilities	**The LED color will be changed as following pattern:**						
LED color / ***Functions***	Amber	Red (5 blinks)	Amber (5 blinks)	Green (5 blinks)	Green/Amber (5 blinks)	Red/Amber (5 blinks)	Solid green
1. Ribbon Sensor Calibration and Gap / black mark sensor calibration		*Release*					
2. Gap / black mark sensor calibration, Self-test and enter dump mode			*Release*				
3. Printer initialization				*Release*			
4. Set black mark sensor as media sensor and calibrate the black mark sensor					*Release*		
5. Set gap sensor as media sensor and calibrate the gap sensor						*Release*	
6. Skip AUTO.BAS							*Release*

4.3.1 Ribbon and Gap/Black Mark Sensor Calibration

Gap/black mark sensor sensitivity should be calibrated at the following conditions:

1. First time printer use.
2. When changing label stock.
3. Printer initialization.

Please follow the steps below to calibrate the ribbon and gap/black mark sensor.

1. Turn off the power switch.
2. Press and hold the FEED button while powering on the printer.
3 Release the FEED button when LED is blinking **red**. (The LED will blink red 5 times. You may release the feed button at any point while blinking red).

- Printer will calibrate the ribbon sensor and gap/black mark media sensor sensitivity.
- The LED color will change in the following order：
  Amber → **red (5 blinks)** → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → solid green

Note:

Please select gap or black mark sensor by sending GAP or BLINE command to printer prior to calibrating the sensor.

4.3.2 Gap/Black Mark Calibration, Self-test and Dump Mode

During calibration of the gap/black mark sensor, the printer will measure the label length, print the internal configuration (self-test) label and then enter dump mode. Gap or black mark sensor calibration is based upon the sensor setting for the previous print job.
Please follow the steps below to calibrate the sensor.

1. Turn off the power switch.
2. Press and hold the FEED button while powering on the printer.
3. Release the FEED button when the LED is blinking **amber**. (The LED will blink amber 5 times. You may release the feed button at any point while blinking amber)

- The LED color will change in the following order.
  Amber → red (5 blinks) → **amber (5 blinks)** → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → solid green

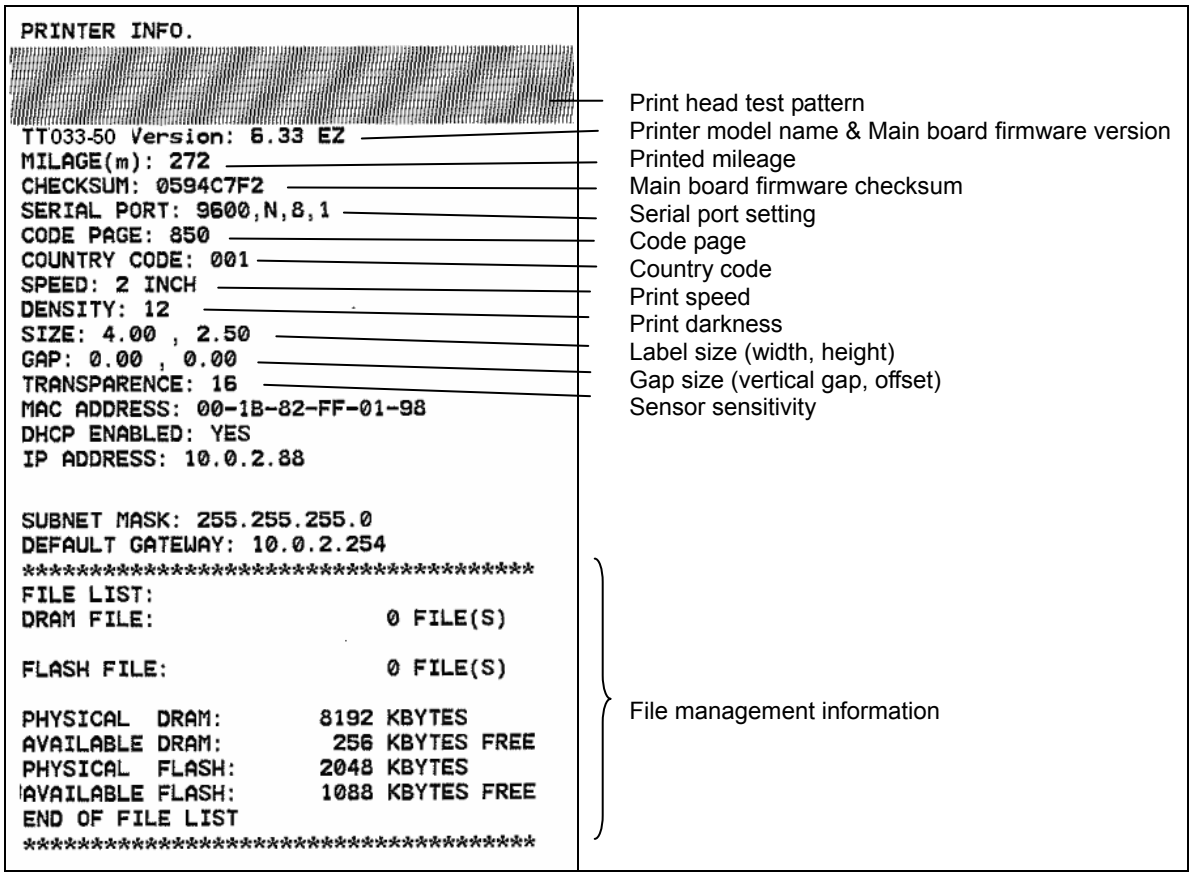
4. The printer will calibrate the sensor and measure the label length. It will print the internal setting label and enter the dump mode.

Note:

Please select gap or black mark sensor by Diagnostic Tool or by GAP or BLINE command prior to calibrating the sensor.

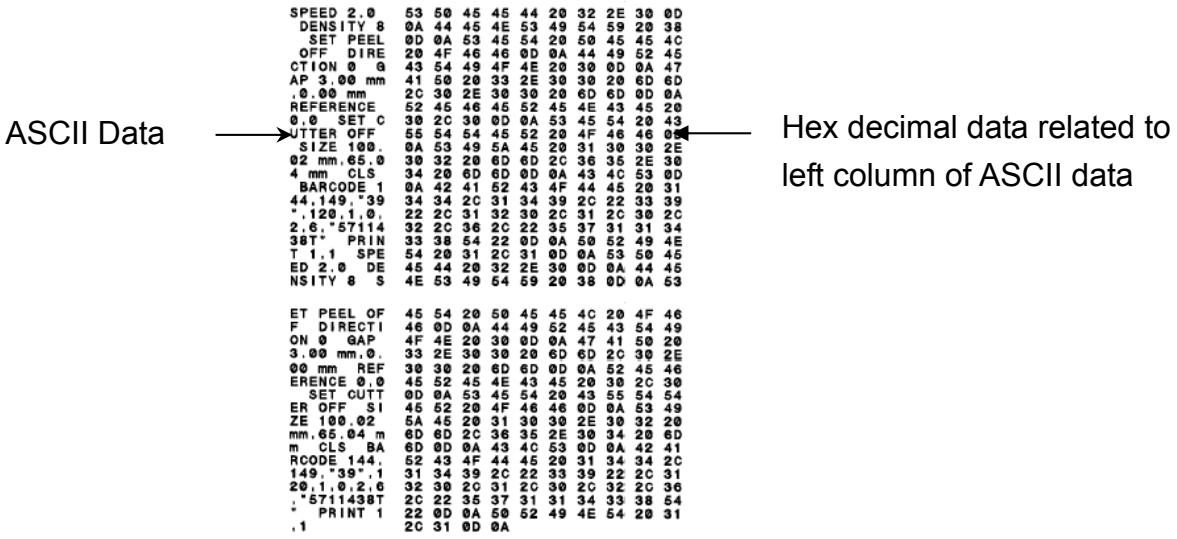
Self-test

Printer will print the printer configuration label after gap/black mark sensor calibration. The Self-test printout can be used to check if there is any dot damage on the heater element, view printer configuration and available memory space.



■ Dump mode

Printer will enter dump mode after printing printer configuration. In the dump mode, all characters will be printed in 2 columns as following. The left side characters are received from your system and right side data are the corresponding hexadecimal value of the characters. It allows users or engineers to verify and debug the program.



Note:

1. Dump mode requires 4” wide paper.

2. Cycle the power to resume normal printing.

3. Press FEED button to go back to the previous menu.

4.3.3 Printer Initialization

Printer initialization is used to clear DRAM and restore printer settings to defaults. The only exception is ribbon sensitivity, which will not be restored to default.
Printer initialization is activated by the following procedures.

1. Turn off the power switch.
2. Press and hold the FEED button while powering on the printer.
3. Release the FEED button when LED is blinking **green**. (The LED will blink green 5 times. You may release the feed button at any point while blinking green).

- The LED color will change in the following order:
  Amber → red (5 blinks) → amber (5 blinks) → **green (5 blinks)** → green/amber (5 blinks) → red/amber (5 blinks) → solid green

Printer configuration will be restore to defaults as below after initialization.

Parameter	Default setting
Speed	127 mm/sec (5 ips) (203DPI) 76 mm/sec (3 ips) (300DPI)
Density	8
Label Width	4” (101.5 mm)
Label Height	4” (101.5 mm)
Sensor Type	Gap sensor
Gap Setting	0.12” (3.0 mm)
Print Direction	0
Reference Point	0,0 (upper left corner)
Offset	0
Tear Mode	On
Peel off Mode	Off
Cutter Mode	Off
Serial Port Settings	9600 bps, none parity, 8 data bits, 1 stop bit
Code Page	850
Country Code	001
Clear Flash Memory	No
IP Address	DHCP

4.3.4 Set Black Mark Sensor as Media Sensor and Calibrate the Black Mark Sensor

Please follow the steps as below.
1. Turn off the power switch.
2. Press and hold the FEED button while powering on the printer.
3. Release the FEED button when LED is blinking **green/amber**. (The LED will blink green/amber 5 times. You may release the feed button at any point while blinking green/amber).

- The LED color will be changed as following:
  Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → **green/amber (5 blinks)** → red/amber (5 blinks) → solid green

4.3.5 Set Gap Sensor as Media Sensor and Calibrate the Gap Sensor

Please follow the steps as below.
1. Turn off the power switch.
2. Press and hold the FEED button while powering on the printer.
3. Release the FEED button when LED is blinking **red/amber.** (The LED will blink red/amber 5 times. You may release the feed button at any point while blinking red/amber).

- The LED color will be changed as following:
  Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → **red/amber (5 blinks)** → solid green

4.3.6 Skip AUTO.BAS

TSPL2 programming language allows the user to download an auto execution file to flash memory. Printer will run the AUTO.BAS program immediately when turning on printer power. The AUTO.BAS program can be interrupted without running the program by the following power-on utility.

Please follow the procedures below to skip an AUTO.BAS program.
1. Turn off printer power.
2. Press and hold the FEED button while powering on the printer.
3. Release the FEED button when LED is **solid green**.
   - The LED color will be changed as following:
     Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → **solid green**
4. Printer will not run the AUTO.BAS program.

5. Troubleshooting

The following guide lists the most common problems that may be encountered when operating this bar code printer. If the printer still does not function after all suggested solutions have been invoked, please contact the Customer Service Department of your purchased reseller or distributor for assistance.

5.1 LED Status

This section lists the common problems according to the LED status and other problems you may encounter when operating the printer. Also, it provides solutions.

LED Status / Color	Printer Status	Possible Cause	Recovery Procedure
OFF	No response	No power	* Turn on the power switch. * Check if the green LED is lit on power supply. If it is not lit, power supply may be defective. * Check both power connections from the power cord to the power supply and from the power supply to the printer power jack. Be sure they are connected securely.
Solid Green	ON	The printer is ready to use	* No action necessary.
Green with blinking	Pause	The printer is paused	* Press the FEED button to resume printing.
Red with blinking	Error	The printer is out of labels or ribbon, the settings are not correct	1. Out of label or ribbon * Load a roll of labels and follow the instructions for loading the media then press the FEED button to resume printing. * Load a roll of ribbon and follow the instructions for loading the ribbon then press the FEED button to resume printing. 2. Printer setting is not correct * Initialize the printer by instructions in “Power on Utility” or “Diagnostic Tool”.

Note:

Printer status can be easily shown from the Diagnostic Tool. For more information about the Diagnostic Tool, please refer to the utilities folder on the provided Software & Documentation CD.

5.2 Print Quality

Problem	Possible Cause	Recovery Procedure
Not Printing	Check if interface cable is connected to the interface connector.	Re-connect cable to interface.
	The serial port cable pin configuration is not pin to pin connected.	Please replace the cable with pin to pin connected.
	The serial port setting is not consistent between host and printer.	Please reset the serial port setting.
	The port specified in the Windows driver is not correct.	Select the correct printer port in the driver.
	The Ethernet IP, subnet mask, gateway is not configured properly.	Configure the IP, subnet mask and gateway using Diagnostic Tool.
No print on the label	Label or ribbon not loaded correctly.	Follow the instructions for loading the media or loading the ribbon.
	Ribbon ran out.	Loading the ribbon.
Continuous feeding labels	The printer setting is not correct.	Please do the initialization and gap/black mark calibration.
Paper Jam	Gap/black mark sensor sensitivity is not set properly (sensor sensitivity is to low)	Calibrate the gap/black mark sensor.
	Make sure label size is set properly.	Set label size exactly as installed paper in the labeling software or program.
	Labels may be stuck inside the printer mechanism near the sensor area.	Remove the stuck label.
Poor Print Quality	Top cover is not closed properly.	Close the top cover completely and make sure the right side and left side levers are latched properly
	Check if supply is loaded correctly.	Reload the supply.
	Ribbon and media are incompatible.	Change the ribbon or label combination.
	Check if dust or adhesives are accumulated on the print head.	Clean the print head.
	Check if print density is set properly.	Adjust the print density and print speed.
	Check print head test pattern if head element is damaged.	Run printer self-test and check the print head test pattern if there is dot missing in the pattern.

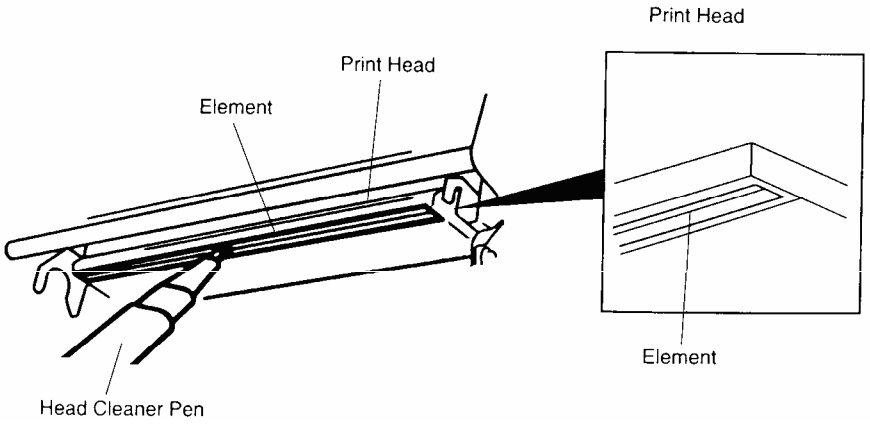
6. Maintenance

This session presents the cleaning tools and methods to maintain your printer.

1. Please use one of following materials to clean the printer.

- Cotton swab (Head cleaner pen)
- Lint-free cloth
- Vacuum / Blower brush
- 100% ethanol

2. The cleaning process is described as following:

<table>
<tr><th>Printer Part</th><th>Method</th><th>Interval</th></tr>
<tr><td rowspan="2">Print Head</td><td>1. Always turn off the printer before cleaning the print head.
2. Allow the print head to cool for a minimum of one minute.
3. Use a cotton swab and 100% ethanol to clean the print head surface.</td><td>Clean the print head when changing a new roll of ribbon</td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td>Platen Roller</td><td>1. Turn the power off.
2. Rotate the platen roller and wipe it thoroughly with 100% ethanol and a cotton swab, or lint-free cloth.</td><td>Clean the platen roller when changing a new roll of ribbon</td></tr>
<tr><td>Tear Bar/Peel Bar</td><td>Use the lint-free cloth with 100% ethanol to wipe it.</td><td>As needed</td></tr>
<tr><td>Sensor</td><td>Compressed air or vacuum</td><td>Monthly</td></tr>
<tr><td>Exterior</td><td>Wipe it with water-dampened cloth</td><td>As needed</td></tr>
<tr><td>Interior</td><td>Brush or vacuum</td><td>As needed</td></tr>
</table>

Note:

- **Do not touch printer head with your hand, if touched please use ethanol to clean it.**

- **Please use 100% Ethenol. DO NOT use medical alcohol, which may damage the printer head.**
- **Regularly clean the print head and supply sensors when changing a new ribbon to keep printer performance and extend printer life.**
- **Continuous printing may cause the printers motor to overheat. The printer will stop printing automatically for about 10~15 minutes until the motor has cooled down. Please don't turn power off when printer pauses or the data transfered to the printer buffer will be lost.**
- **The maximum printing ratio per dot line is 15% for this printer. To print the full web black line, the maximum black line height is limited to 40 dots, which is 5mm for 203 DPI resolution printer and 3.3mm for 300 DPI resolution printer.**